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Social Skill as Moderator of the Conscientiousness–Performance Relationship: Convergent Results Across Four Studies

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The authors conducted 4 studies to test the hypothesis that the relationship between Conscientiousness and job performance reflecting interpersonal effectiveness is more strongly positive among workers who are higher rather than lower in social skill. Results of hierarchical moderated regression analyses supported the hypothesis in all 4 studies. Among workers high in social skill, Conscientiousness was positively related to performance. Among workers low in social skill, the relationship between Conscientiousness and performance was essentially irrelevant in Study 2 but was negative in the other 3 studies. Potential implications of these results are discussed as are directions for future research.

The role of personality characteristics in organizational research has become firmly established in recent years despite the cautious and even pessimistic views toward personality from the 1960s to the 1980s (e.g., George, 1992; Mount & Barrick, 1995a; Perrewé & Spector, 2002). Indeed, some personality traits have been found to be reasonably consistent predictors of job performance criteria. However, increasing evidence from meta-analyses seems to suggest the presence of moderators. Conscientiousness has been perhaps the most consistent predictor of job performance, but it too has shown enough variability across studies to warrant a search for moderators (e.g., Barrick, Mount, & Judge, 2001).

Hogan and Shelton (1998) argued that personality needs social skill to demonstrate its positive effects, implicitly suggesting that we should not expect to see strong personality prediction of job performance without social skill. Social skill should thus have a facilitating effect, contributing to the demonstration of positive personality effects on performance. However, low social skill not only might keep personality from exhibiting favorable effects, it could actually contribute to decreased job performance among individuals very high in certain traits. We investigated the moderating role of social skill on the relationship between Conscientiousness and job performance in four studies that sought convergence of findings through both literal and constructive replications (Lykken, 1984). We begin with a discussion of the nature of job performance, followed by discussions of personality and social skill as different classes of predictors, and then conclude with a discussion of the nature of the Conscientiousness × Social Skill interaction.

Nature and Dimensionality of Job Performance

The nature of job performance has fascinated organizational scientists for decades from both a scientific and practical standpoint. Campbell (1990) proposed that job performance be classified into dimensions relating to the execution of substantive or technical tasks, as well as elements focusing on interpersonal and motivational aspects. Consistent with Organ's work on organizational citizenship behavior (e.g., Bateman & Organ, 1983; Organ, 1988, 1997), this suggestion distinguished formally prescribed performance from aspects of job performance that are neither formally designated nor explicitly required but that are valued by the organization.

Following Campbell (1990), it has been the work of Borman, Motowidlo, and their colleagues (Borman & Motowidlo, 1993; Borman & Motowidlo, 1997a, 1997b; Motowidlo & Van Scotter, 1994; Van Scotter & Motowidlo, 1996; Van Scotter, Motowidlo, & Cross, 2000) that has theoretically and empirically substantiated the distinction between task performance and contextual performance as critical and pervasive dimensions of job performance across various types of jobs. Task performance is the set of core substantive tasks and duties central to a particular job. It represents the activities that differentiate one occupation from another. They referred to contextual performance as behaviors not formally prescribed by any specific job but rather inherent in all jobs. Contextual performance behaviors support the social fabric of the organization. Borman and Motowidlo (1993) originally considered contextual performance to represent behaviors including volunteering, helping, cooperating, following rules, persisting, and so forth, which bear strong similarity to organizational citizenship behaviors (Organ, 1988, 1997).

Recent research has demonstrated that contextual performance actually separates into two dimensions of job dedication and interpersonal facilitation (Van Scotter & Motowidlo, 1996), which uniquely reflect significant positive paths to overall job perfor-

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mance (Conway, 1999). Van Scotter and Motowidlo (1996) defined job dedication as "self-disciplined behaviors such as following rules, working hard, and taking the initiative to solve a problem at work" (p. 526). They also defined interpersonal facilitation as "interpersonally oriented behaviors that contribute to organizational goal accomplishment" (p. 526). Conway (1999) listed "building and mending relationships, compassion and sensitivity, putting people at ease, cooperation, consideration, interpersonal relations" (p. 6) as elements of interpersonal facilitation. Such relationship-building and cooperative behaviors may contribute to the creation of "social relational capital," which is a key to organization-level performance (Bolino, Turnley, & Bloodgood, 2002; Nahapiet & Ghoshal, 1998).

The distinction between core task performance and interpersonal facilitation, as an element of contextual performance, is probably more useful for jobs in which interpersonal facilitation is relatively independent of task accomplishment (e.g., computer programmers and clerical workers) than for jobs in which interpersonal facilitation is directly linked to task performance (e.g., sales and customer service workers). With the latter type of jobs, it might be difficult to separate core task performance from interpersonal facilitation because a significant component of core task performance is often the emotional environment created by the worker for the customer (e.g., the perception of quality customer service delivery or customer satisfaction).

Prediction of Job Performance

Different categories of variables have been examined as predictors of job performance. General mental ability (GMA) remains perhaps the most consistent predictor of overall job performance across job types (Ree, Earles, & Teachout, 1994). However, contemporary theory and research has focused on the predictive power of personality measures (see Barrick & Mount, 1993). Borman and Motowidlo (1993) argued that task and contextual performance should be differentially predictable from distinct sets of measures, namely GMA and personality, respectively. Hogan, Hogan, and Roberts (1996) criticized research efforts that failed to theoretically align personality predictors with relevant performance constructs. Similarly, Goldstein, Zedeck, and Goldstein (2002) suggested that criteria should be narrow for noncognitive aspects of performance. We suggest a new class of measures, referred to as social skill, which appears likely to play an increasingly important role in the prediction of job performance in light of the dynamic and increasingly social realities of contemporary and future organizational environments. Social skill is most likely to have an impact on aspects of job performance reflecting interpersonal effectiveness. Thus, we are examining two noncognitive measures that are important predictors of performance, namely personality and social skill.

Personality Measures

Personality theory and measurement has represented a longstanding and important area of scientific inquiry for over 80 years, owing much to the pioneering work of Allport (1937), Cattell (1945), and Eysenck (1953). This early work resulted in classification schemes driven by different theoretical underpinnings regarding the underlying dimensionality of personality. Over the past 2 decades, however, personality scholars have generally concluded that a comprehensive characterization of personality can be depicted by five factors (e.g., Costa & McCrae, 1985; Digman, 1989; Goldberg, 1993)—a Big Five (Goldberg, 1992) model consisting of Agreeableness, Conscientiousness, Emotional Stability, Extraversion, and Openness to Experience.

Some work has supported the predictive validity of Agreeableness, Emotional Stability, and Extraversion (Mount & Barrick, 1995a). However, it is Conscientiousness that researchers have identified as the strongest individual difference predictor of overall job performance, with the exception of GMA (e.g., Behling, 1998; Dunn, Mount, Barrick, & Ones, 1995; Hogan, Rybicki, Motowidlo, & Borman, 1998). Goldberg (1993) suggested that Conscientiousness is reflected by such characteristics as dependability and thoroughness versus carelessness and negligence. "Conscientiousness describes socially prescribed impulse control that facilitates task- and goal-directed behavior, such as thinking before acting, delaying gratification, following norms and rules, and planning, organizing and prioritizing tasks" (John & Srivastava, 1999, p. 121). Not surprisingly, personality researchers have even labeled Conscientiousness as *will to achieve* (Digman & Takemoto-Chock, 1981).

Industrious and achievement-oriented workers high in Conscientiousness are generally successful because they are willing to put forth the level of effort needed to accomplish goals, that is, they are motivated to perform well (Mount & Barrick, 1995a). Conscientiousness predicts core task performance because high-Conscientiousness workers tend to be efficient, planful, thorough, responsible, organized, and reliable (McCrae & John, 1992). They are likely to persevere and more effectively engage in self-discipline (Colquitt & Simmering, 1998) and be more proactive and effective in goal-setting (Barrick, Mount, & Strauss, 1993; Gellatly, 1996) than low-Conscientiousness workers. Conscientiousness predicts job dedication because high-Conscientiousness workers seek opportunities to do the right thing, pay sufficient attention to detail to be able to identify what needs to be done, and follow rules. Conscientiousness predicts interpersonal facilitation because conscientious workers are likely to listen and attend to the details important to others, respect social protocol, and be thorough in following up on matters important to others, creating the impression of cooperation and sensitivity.

Surprisingly, meta-analytic researchers have consistently reported very small average observed validity coefficients of Conscientiousness (e.g., $r = .12$ in Tett, Jackson, & Rothstein, 1991; $r = .11$ in Vinchur, Schippmann, Switzer, & Roth, 1998; $r = .12$ in Hurtz & Donovan, 2000). Reporting results of their second-order meta-analysis, Barrick et al. (2001) reported variability in the validities of Conscientiousness across studies ($\rho = .23$; 90% credibility values ranged from .10 to .35), suggesting the possible presence of moderator variables. Studies indicating that job satisfaction (Mount, Colbert, Harter, & Barrick, 2000), autonomy (Barrick & Mount, 1993), performance expectancy, performance valence, goal setting (Barrick et al., 1993), perceptions of organizational politics (Hochwarter, Witt, & Kacmar, 2000), and goal choice (Gellatly, 1996) moderate the relationship between Conscientiousness and job performance are consistent with this notion.

Social Skill

The ability to effectively read, understand, and control social interactions has been of interest to behavioral scientists for quite some time. The evolution of thinking about social effectiveness has been highlighted in recent years as a function of the increased social demands and nature of work organizations. Following Thorndike (1920), early work focused on the construct of social intelligence, which still serves as the foundation of social skill and many other forms of social effectiveness (Ferris, Perrewé, & Douglas, 2002). Marlowe (1986) described social intelligence as "the ability to understand the feelings, thoughts, and behaviors of persons, including oneself, in interpersonal situations and to act appropriately upon that understanding" (p. 52).

Similarly, Meichenbaum, Butler, and Gruson (1981) argued that social skill refers to the capacity and knowledge of both what to do and when to display certain behaviors, in addition to possessing flexibility and behavioral control. Riggio (1986) described social skill in terms of learned social abilities and strategies for interpersonal interaction. R. J. Schneider and his colleagues used the term *social competence* and defined it as socially effective behavior that allows people to achieve social goals as well as the cognitive and affective antecedents of that behavior (R. J. Schneider, Ackerman, & Kanfer, 1996; R. J. Schneider, Roberts, & Heggestad, 2002).

Terminology used in the social effectiveness literature has not been consistent (Asher & Taylor, 1983). We prefer *social skill* because the term *skill* is "synonymous with proficiency, to denote the degree of mastery already acquired in an activity" (Super & Crites, 1962, p. 73). Indeed, social skill reflects ability (Riggio, 1986; Topping, Bremner, & Holmes, 2000) and is learned (Gesten, Weissberg, Amish, & Smith, 1987; Riggio, 1986). We view social skill as reflecting both interpersonal perceptiveness and the capacity to adjust one's behavior to different and changing situational demands and to effectively influence and control the responses of others. Interpersonal perceptiveness reflects the ability to accurately interpret interpersonal dynamics (e.g., "read between the lines" vs. interpret others' comments literally).

Socially skilled individuals are more likely than those low in social skill to effectively use those social perceptions to identify the appropriate timing for an influence attempt, improvise when they perceive that their planned impression management strategy is likely to fail, and know when to remain silent or speak up. Thus, social skill effectively captures the cognitive element of reading and understanding social situations and also captures the behavioral or action component of being able to act on that insight to influence others.

Personality and Social Skill

Researchers have employed a variety of theoretical perspectives to conceptualize personality (John & Srivastava, 1999). Perhaps the most common approach is based on personality traits (Gosling & John, 1999). Researchers advocating the trait perspective use personality factors to explain behavior (e.g., Paunonen, 2001). These factors represent stable, enduring dispositions toward behavior, and these dispositions may be largely inherited (Markon, Krueger, Bouchard, & Gottesman, 2002). Block and Kremen (1996) noted that social skill maintains the personality system within reasonable boundaries, thus allowing for acceptable environmental adaptation. Similarly, in making the distinction between social skill and personality, Hogan and Shelton (1998) suggested the following:

> Social skill concerns translating these interpersonal aspirations into actions; social skill allows one to achieve his or her interpersonal goals just as hand-eye coordination allows one to hit a tennis ball accurately. Personality and social skill are quite different—personality is relatively stable and enduring whereas social skills are relatively trainable. More important, good social skills can and do coexist with deeply flawed personalities—where flaws are defined in terms of insecurity and selfishness, strange and irrational goals, and a disposition toward treachery and deceit (Leary, 1995). (p. 135)

The distinction between social skill and personality then is that the learned ability of social skill allows personality dispositions to demonstrate their positive effects, thus moderating the relationship between personality and job performance. Both Riggio and R. J. Schneider (Riggio, 1986; R. J. Schneider et al., 1996; R. J. Schneider et al., 2002) explicitly discussed social skill as distinct from, and not simply subsumed by, cognitive ability and personality. However, they suggested that social skill should naturally reflect relationships with some of the more interpersonal-oriented personality characteristics but that these correlations should be modest in magnitude. Indeed, both scholars have reported modest correlations of social skill with personality characteristics (Riggio, 1986; R. J. Schneider et al., 1996; R. J. Schneider et al., 2002), and R. J. Schneider et al. (2002) showed only limited overlap with cognitive ability.

Hogan and Shelton's (1998) suggestion that "social skill is the moderator variable that translates peoples' intentions into observer evaluations" (p. 135) is consistent with Maier's (1955) definition of job performance as the result of an interaction between motivation and ability. The formula Performance = Motivation $\times$ Ability suggests that performance is near zero when either ability or motivation is absent but increases as either factor increases. In other words, motivation and ability do not only have main effects on performance, rather, motivation has stronger effects at higher levels of ability, and ability has stronger effects at higher levels of motivation.

Very high levels of motivation without ability can lead not just to low levels of performance but to dysfunctional performance. Maier (1955) cited the example of a highly motivated industrial worker with limited ability; such a person might work fast to gain attention and praise but instead have an accident. Although the person may have wanted to achieve success, he or she did not have the ability to work at a high speed. Similarly, highly conscientious workers with limited social skill may diligently forge ahead but yet miss subtle social nuances and complexities, leading them to dysfunctional interactions.

Researchers testing the interaction model have often used personality as a proxy for motivation (e.g., Mount, Barrick, & Strauss, 1999; Sackett, Guys, & Ellingson, 1998). Researchers have assessed ability in terms of GMA, using such measures as standardized college entrance exam scores (e.g., SCAT; Sackett et al., 1998) and standardized intelligence tests (e.g., Wonderlic Personnel Test; Mount et al., 1999). Findings have been mixed. Some researchers operationalizing motivation in terms of some aspect of

Conscientiousness found support for the interaction hypothesis (French, 1958; O'Reilly & Chatman, 1994; Wright, Kacmar, McMahan, & Deleeuw, 1995); however, Mount et al. (1999) did not. Other researchers who have used various personality factors as proxies for motivation found only limited support (Dodd, Wollowick, & McNamara, 1970; Hobart & Dunnette, 1967; Hollenbeck, Brief, Whitener, & Pauli, 1988; Sackett et al., 1998).

Goldstein et al. (2002) suggested that "some predictors referred to as 'noncognitive' may contain a cognitive component" (p. 130). Social skill is one such noncognitive predictor reflecting ability. Considering that Conscientiousness has been labeled as the most important trait-based motivation variable in the field of industrial and organizational psychology (Schmidt & Hunter, 1992), examining a Conscientiousness × Social Skill interaction may be an appropriate way to test Maier's (1955) interaction hypothesis as relevant to criteria reflecting interpersonal effectiveness.

The notion that social skill acts as a moderator is consistent with recent theoretical arguments that emotional intelligence moderates the impact of the environment on work behavior (Jordan, Ashkanasy, & Härtel, 2002). Recent theoretical and empirical work hints specifically of a Conscientiousness × Social Skill interaction. Goleman (1998) suggested that Conscientiousness without social skill can lead to problems. In other words, when highly conscientious people lack social skills, working with them may be particularly difficult. Conscientious individuals without social skill can be seen as unreasonably demanding, inflexible, and micromanaging. Thus, highly conscientious, yet socially unskilled workers likely pursue matters well beyond the point desired by others. They might be seen as not just fighting the wrong battles but rather as fighting almost every battle, perhaps in their minds "for the good of the company" or "to do what is right."

Witt, Burke, Barrick, and Mount (2002) used the Big Five construct of Agreeableness as a proxy for social skill and examined the interaction between Conscientiousness and Agreeableness on generic job performance. They argued that other factors being equal, workers high in Conscientiousness are better performers than workers low in Conscientiousness (Barrick & Mount, 1991). However, when other factors, such as Agreeableness, are not equal, workers may be less effective, even though they are high in Conscientiousness.

Witt et al. (2002) hypothesized that the relationship between Conscientiousness and job performance ratings would be stronger among high-Agreeableness than low-Agreeableness workers, and they found support for the hypothesis in five of seven samples. They offered the explanation that Agreeableness was not relevant to the jobs (i.e., truck drivers and civilian Army managers) in the two samples in which the hypothesized interaction was not found. However, it is possible that they may have found support for the interaction had they examined performance criteria reflecting interpersonal effectiveness. Interpersonal effectiveness is relevant to most, if not all, jobs. Even truck drivers must interact and cooperate with dispatchers and loading personnel.

Present Research

The purpose of the present research was to investigate the moderating role of social skill on the relationship between Conscientiousness and job performance reflecting interpersonal effectiveness, which we did in four studies using different occupational groups and performance criteria. Furthermore, in this sequence of studies, we sought to conduct a more precise test of the hypothesis than did Witt et al. (2002) because we measured social skill directly instead of using Agreeableness as a proxy, and we focused on aspects of job performance reflecting interpersonal effectiveness. In Studies 1 and 2, we operationalized job performance in terms of supervisor ratings of interpersonal facilitation. In Study 3, we assessed job performance with peer ratings of organizational citizenship behavior. In Study 4, we gathered supervisor ratings of overall performance in an occupation in which interpersonal effectiveness was critical to overall performance, namely sales.

We suggest a Conscientiousness × Social Skill interaction in which the relationship between Conscientiousness and performance is stronger among workers high in social skill. Predisposed both to put forth considerable effort and to pay attention to details, as well as possessing the ability to know when and how to influence others, workers high in Conscientiousness and social skill are likely to be effective in building and managing relationships. Alternatively, without the ability to read and influence situations (i.e., low social skill), high Conscientiousness is likely to lead to low levels of interpersonal effectiveness at work. Therefore, we hypothesized the following:

> *Hypothesis:* Conscientiousness is more strongly and positively associated with supervisor ratings of job performance reflecting interpersonal effectiveness among workers high in social skill than among those low in social skill. However, among workers low in social skill, increases in Conscientiousness are associated with lower supervisor ratings of job performance.

In Studies 1 and 2, we operationalized the moderator in terms of social skill assessed by self-report. In Studies 3 and 4, we operationalized the moderator in terms of social skill awareness. In Study 3, we assessed social skill through self-report and peer evaluation, and we calculated a social skill awareness measure by creating a difference score between self and peer ratings of social skill. In Study 4, the social skill awareness difference score reflected the difference between self and supervisor ratings of social skill. We assessed social skill awareness for three reasons. First, measuring self-reports of social skill may not lead to accurate estimates. Second, measuring supervisor reports of social skill could yield problems with method variance when also measuring performance by supervisor ratings. Third, consistent with arguments that self-awareness is a component of emotional intelligence (Boyatzis, Goleman, & Hay/McBer, 1999; Salovey & Mayer, 1990), we believed that it is likely that individuals who have an accurate estimate of their social skill (i.e., social skill awareness) are likely to be more effective (i.e., have more social skill) than individuals who overestimate their social skill. In accordance, we thought that we could capture awareness as reflecting the size of the gap or difference between self and other assessments of social skill.

Because demographic variables have been shown to explain variance in performance ratings and to eliminate spurious relations with contextual performance (e.g., Tsui & O'Reilly, 1989), we included gender, minority status, and age as control variables in

the analyses in Studies 1, 2, 3, and 4. In Study 2, we also included organizational tenure, which has been shown to explain variance in performance (Gordon & Fitzgibbons, 1982) and the length of time the supervisor has known the worker.

Method

Participants and Procedure

Study 1. As part of a project conducted for both applied and research purposes, we collected data from 60 male and 58 female technical–professional employees of a private sector industrial services company, of whom 64 were nonminorities and 54 were minorities. Most of the workers had at least 2 years of university education. The workers, who performed a combination of semiroutine transactions and project work, voluntarily participated in the study. The supervisors of the workers provided interpersonal facilitation ratings.

Study 2. We used Ferris, Witt, and Hochwarter's (2001) data to conduct Study 2 to replicate Study 1. They studied 98 nonsupervisory software engineers in a systems development organization. They collected organizational tenure and attempted to assess halo by measuring the time that the supervisors had known the workers. The sample was made up of 67 males, 31 females, 82 nonminorities, and 16 minorities. The workers averaged about 4 years of formal education beyond high school and nearly $47,000 in annual base salary. The supervisors of the workers provided interpersonal facilitation ratings.

Study 3. As part of a project conducted for both applied and research purposes, we collected data from 116 employees of a financial services firm. The sample consisted of 45 males, 71 females, 76 nonminorities, and 40 minorities. The participants were predominantly low- to midlevel office staff workers performing relatively routine tasks. The peers of the workers provided both social skill and organizational citizenship behavior ratings. Management disseminated our surveys and solicited participation. They identified some peers as raters and others as ratees. In our instructions to management, we defined peers as coworkers in the same work unit who had worked with the peer rater for at least 6 months. Peer raters were not rated.

Study 4. As part of a project conducted for both applied and research purposes, we collected data from 90 male and 69 female sales workers, of whom 108 were nonminorities and 51 minorities. The workers voluntarily participated in the study. These employees of a retail sales organization had been hired from interviews on the basis of their sales ability because the products sold were not complicated in nature. The supervisor of the workers provided an overall rating of their sales performance and social skill.

Measures

Conscientiousness. We measured Conscientiousness in Studies 1 (α = .80), 3 (α = .81), and 4 (α = .85) using the 10-item Conscientiousness Scale of Goldberg's (1999, Appendix A) Big Five factor markers in the International Personality Item Pool (IPIP). Each scale consisted of 10 items. Workers rated items on a 5-point Likert-type scale, from 1 (*very inaccurate*) to 5 (*very accurate*). The 30-item Conscientiousness Scale of the Personal Characteristics Inventory (PCI; Mount & Barrick, 1995b) assessed Conscientiousness in Study 2 (α = .81).

Job performance. To assess performance reflecting interpersonal effectiveness in Studies 1 (α = .75) and 2 (α = .77), we employed the five-item scale of interpersonal facilitation developed by Ferris, Witt, and Hochwarter (2001). The items that make up this scale are as follows: "Expresses value and positive regard for the work and ideas of others," "Cooperates with other team members by sharing information readily," "Creates effective working arrangements with team members and partners," "Develops and maintains positive client relationships," and "Listens carefully and responds thoughtfully in exchanging work information." Supervisors rated their employees on each item using the following scale: 1 (*weak* or *bottom 10%*), 2 (*fair* or *next 20%*), 3 (*good* or *next 40%*), 4 (*very good* or *next 20%*), or 5 (*best* or *top 10%*). Items were summed to yield a total interpersonal facilitation score for each worker. In Study 3, because recent research has suggested that job dedication and interpersonal facilitation dimensions of contextual performance are virtually identical in content to organizational citizenship behavior (e.g., Borman & Motowidlo, 1993, 1997a; Johnson, 2002; Organ, 1997), we measured contextual job performance by asking peers to complete the 13-item Organ (1988) scale of organizational citizenship behavior (α = .89). In Study 4, supervisors rated overall sales performance using the following scale: 1 (*weak or bottom 10%*), 2 (*fair* or *next 20%*), 3 (*good* or *next 40%*), 4 (*very good* or *next 20%*), or 5 (*best* or *top 10%*).

Social skill. To assess social skill, we used the seven-item scale (Study 1, α = .79; Study 2, α = .77; Study 3, self-rated, α = .80, peer-rated, α = .88; Study 4, self-rated, α = .81, supervisor-rated, α = .89) developed by Ferris, Witt, et al. (2001). Measured on a 1–5-point Likert-type scale, from 1 (*strongly disagree*) to 5 (*strongly agree*), the seven items were as follows: "I find it easy to put myself in the position of others;" "I am keenly aware of how I am perceived by others;" "In social situations, it is always clear to me exactly what to say and do;" "I am particularly good at sensing the motivations and hidden agendas of others;" "I am good at making myself visible with influential people in my organization;" "I am good at reading others' body language;" and " I am able to adjust my behavior and become the type of person dictated by any situation." Higher scores reflect higher levels of social skill.

Social skill awareness in Studies 3 and 4. In line with previous studies (e.g., Vancouver & Schmitt, 1991), we computed *D* statistic profile scores (Cronbach & Gleser, 1953) to reflect the extent of agreement between the self and other ratings of social skill. The *D* statistic is the square root of the sum of the squared differences between each item rated by the individual and each item rated by the other (i.e., peer in Study 3 and supervisor in Study 4). Following Cronbach (1958), researchers have noted limitations in the use of the *D* statistic and other measures used for profile analysis (e.g., Johns, 1981; Edwards, 2001). One of the concerns raised is that the *D* statistic does not take into account the direction of the difference. As evident in the upward feedback literature (e.g., Yammarino & Atwater, 1997), the direction of the difference may have psychological meaning. However, although there were a few cases in our data in which individuals rated themselves lower on individual social skill items than did their peers or supervisors, there were no instances in which total social skill scale scores assessed by the self were lower than the total scores provided by the peers and supervisors. Thus, none of the participants in Studies 3 and 4 were "underraters." Difference scores also have been criticized as being conceptually similar to their component variables. However, this argument has not been accepted universally (Tisak & Smith, 1994), and we included the self and other ratings in the regression equations. The polynomial regression technique advocated by Edwards (1993, 1994) offers an alternative to the *D* statistic. This mathematical modeling approach attempts to maximize the variance explained by ascertaining all possible linear, interactive, and polynomial effects. It effectively illustrates relationships between ratings and criteria in terms of multidimensional response surfaces (Edwards, 1996). However, some researchers have argued that polynomial regression is empirically driven and that difference scores, such as the *D* statistic, are appropriate when testing a specific, theory-based hypothesis rather than a general response surface model (e.g., Bedeian & Day, 1994; Tinsley, 2000; Tisak & Smith, 1994; Witt, 1998). High *D* statistic scores reflect lower social skill awareness.

Demographics. Participants voluntarily indicated their gender, minority status, and age in Studies 1, 3, and 4. In Study 2, these demographics and organizational tenure were gathered from organizational records. Be-

cause the length of time the supervisor has known the worker may be related to halo error in terms of rater familiarity with the worker (Cooper, 1981), Ferris et al. (2001) asked first-line supervisors to indicate how long they had known each employee, and we included time known by the supervisor as an additional control variable.

Data Analyses

In Studies 1 and 2, we entered the control variables, Conscientiousness, and social skill scores at the first step of hierarchical regression analysis. Then, we entered the Conscientiousness × Social Skill cross-product term to test the hypothesis that the interaction accounted for a statistically significant increment in the proportion of criterion variance explained beyond that contributed by the control variables and main effects of Conscientiousness and social skill. In Studies 3 and 4, we entered the main effects of Conscientiousness, gender, age, minority status, self-rated social skill, other-rated social skill, and social skill awareness at Step 1. We then entered the Conscientiousness × Social Skill awareness cross-product term at Step 2.

Results

Means and standard deviations of all variables for all of the studies are presented in Table 1. The intercorrelation matrices for all studies are presented in Tables 2 and 3. As shown there, social skill scores were significantly related to performance scores in Studies 1 ($r = .23$, $p < .01$) and 4 ($r = .23$, $p < .05$) but not in Studies 2 ($r = .16$, *ns*) and 3 ($r = .12$, *ns*). Social skill awareness scores were significantly related to performance ratings (Study 3: $r = -.33$, $p < .01$; Study 4: $r = -.39$, $p < .01$). Conscientiousness scores were significantly related to overall sales performance in Study 4 ($r = .24$, $p < .01$) but unrelated to the contextual performance ratings (Study 1: $r = .12$, *ns*; Study 2: $r = .12$, *ns*; Study 3: $r = .15$, *ns*). The sizes of these Conscientiousness–performance validity coefficients are consistent with average observed validity coefficients reported in meta-analytic studies (e.g., Tett et al., 1991).

Table 4 presents results of the hierarchical regression analyses. The standardized regression coefficients presented are those derived at the second step; thus, the relative contribution of the main effects of the predictors can be more easily compared. As shown in Table 4, the addition at Step 2 of the Conscientiousness × Social Skill cross-product terms (Study 1: $\triangle R^2 = .03$; Study 2: $\triangle R^2 = .03$) and the Conscientiousness × Social Skill Awareness cross-product terms (Study 3: $\triangle R^2 = .02$; Study 4: $\triangle R^2 = .02$) contributed significant variance beyond the proportion of criterion variance accounted for by the control variables and main effects. These effect sizes ($\triangle R^2$) are within the normal range of .01 to .03 for moderator effects typically found in nonexperimental studies (Chaplin, 1991; Champoux & Peters, 1987).

We plotted the explanation of performance scores at the mean as well as at high and low levels (1.0 and −1.0 *SD*s from the mean; Aiken & West, 1991; Cohen & Cohen, 1983; Stone & Hollenbeck, 1989) of social skill in Studies 1 (Figure 1) and 2 (Figure 2) and of social skill awareness in Studies 3 (Figure 3) and 4 (Figure 4). The plots were consistent with our expectation because the Conscientiousness–performance relationships were stronger among workers around the mean or at high levels of social skill or social skill awareness than among workers at low levels of social skill or social skill awareness. As shown in Figures 1, 2, 3, and 4, workers who were high in both Conscientiousness and social skill or social skill awareness received the highest supervisor ratings of performance.

As expected, among the highly conscientious workers, those high in social skill were assigned higher ratings of job performance than the workers low in social skill. The effect of Conscientiousness on job performance among the workers low in social skill or social skill awareness was essentially nonexistent in Study 2 but was negative in Studies 1, 3, and 4. Applying Cohen's (1988) categories of effect sizes (.20 = small, .50 = medium, and .80 = large), the effect of social skill or social skill awareness on performance among workers with high Conscientiousness scores was large in Study 1 and medium in Studies 2, 3, and 4. Thus, congruent with Maier's (1955) interaction hypothesis, motivation (Conscientiousness) had stronger effects at higher levels of ability (social skill), and ability had stronger effects at higher levels of motivation.

Table 1
Descriptive Statistics

	Study 1		Study 2		Study 3		Study 4	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
1. Performance	3.32	0.72	3.49	0.76	3.50	0.70	3.60	1.00
2. Conscientiousness	3.67	0.70	2.68	0.23	3.75	0.70	3.68	0.72
3. Social skill (self-rated)	3.42	0.71	4.52	0.84	3.65	0.64	3.69	0.64
4. Social skill (other-rated)					3.30	0.78	3.42	0.78
5. Social skill awareness					3.08	1.32	3.06	1.27
6. Gender	1.48	0.50	1.32	0.47	1.61	0.49	1.43	0.50
7. Minority status	1.43	0.50	1.16	0.37	1.35	0.48	1.32	0.47
8. Age	35.46	12.65	39.59	9.12	31.10	12.17	38.37	16.99
9. Tenure			5.54	6.41				
10. Time known by manager			1.70	2.02				

Discussion

The results of all four studies provide support for the hypothesis that Conscientiousness is positively related to job performance for individuals high in social skill and social skill awareness. Among workers low in social skill or social skill awareness, increases in Conscientiousness were associated with lower supervisor ratings of performance in three of the studies, and there was essentially no relationship in the other study. Perhaps because highly conscientious workers low in social skill and social skill awareness may have pursued issues with dogged determination without sensitivity to timing or appropriateness, they were perceived and evaluated by others as ineffective at job performance, reflecting interpersonal interactions. In contrast, highly conscientious workers high in social skill or social skill awareness, who may have not only exerted considerable effort and paid attention to detail in interpersonal matters but who may also have known when and how to do so, were seen by others as successful at job performance reflecting interpersonal effectiveness.

Table 2
Intercorrelation Matrix: Studies 1 and 2

Variable	1	2	3	4	5	6	7	8
1. Performance	—	.12	.16	.06	.07	.20	.25**	−.04
2. Conscientiousness	.12	—	.24**	.28***	.10	−.17*	.05	−.06
3. Social skill (self-rated)	.23**	.27**	—	.13	.05	−.07	.04	−.15
4. Gender	.15	−.08	−.05	—	.17	−.04	.30***	−.14
5. Minority status	.11	−.08	−.05	.08	—	−.12	.06	−.25**
6. Tenure						—	.45***	.52***
7. Time known by manager							—	.11
8. Age	−.15	.23**	.02	−.02	−.05			—

Note. Correlations from Study 1 ($n = 118$) are presented below the diagonal. Correlations from Study 2 ($n = 98$) are presented above the diagonal. Gender: 1 = male, 2 = female. Minority status: 1 = nonminority, 2 = minority.
* $p < .10$. ** $p < .05$. *** $p < .01$.

Limitations and Strengths

Before discussing implications of our studies, we emphasize two limitations. First is our operationalization of social skill. As the emerging literature on social effectiveness provides more fine-tuned notions about the nature and dimensionality of social skill, measurement of social skill is likely to improve. Some research has suggested that social skill is related to social ties and networks (Riggio, 1986). Baron and Markman (2000) theorized that entrepreneurial success is largely a function of how their social skill allows them to establish and leverage social capital. Similarly, in a recent validation of a social skill-type measure, Ferris, Kolodinsky, Hochwarter, and Frink (2001) identified network-building or social capital as a key dimension of the overall construct. Development of some consensus regarding construct definition and measurement and other advances should also better position researchers to develop more refined and precise theory about just what particular dimensions of social skill moderate relationships between particular personality traits and specific work outcomes. Second, we only gathered self and one "other" rating of social skill in Studies 3 and 4. Multiple "other" ratings may provide more accurate estimates of social skill.

These four studies have at least five strengths. First, we have consistent results regarding the interactive effects of Conscientiousness and social skill/social skill awareness across four studies, regardless of the different personality and criterion measures used and the different samples and occupations. Golding (1975) argued that caution should be applied when generalizing the results of a study finding an interaction because interactions often do not replicate. Although Study 2 did not precisely constitute a literal replication according to Lykken (1984), it was very close to it, differing predominantly in the type of sample and measure of Conscientiousness used. Similarly, Study 4 differed from Study 3 in terms of the criterion variable and source of "other" assessment. The identification of the same type of moderating effect of social skill on the Conscientiousness–job performance relationship in the four studies provides some evidence of replication.

Second, the interaction effects were significant even after controlling for demographic variables—gender, age, and minority status in Studies 1, 3, and 4 and also tenure and the length of time the supervisor had known the worker in Study 2. Third, the validity coefficients of Conscientiousness were within the normal range of observed validity coefficients reported in meta-analyses (e.g., Tett et al., 1991), suggesting that our samples may not have been wildly unrepresentative of other working populations. Fourth, the direct measurement of the social skill construct expands on Witt et al. (2002). Finally, following calls to match predictors with theoretically relevant performance criteria (e.g., Borman & Motowidlo, 1993; Goldstein et al., 2002; Hogan et al., 1996), we examined

Table 3
Intercorrelation Matrix: Studies 3 and 4

Variable	1	2	3	4	5	6	7	8
1. Performance	—	.24***	.19**	.68***	−.39***	−.21***	−.12	−.17**
2. Conscientiousness	.15	—	.14	.30***	−.30***	.13	.04	.05
3. Social skill (self-rated)	.12	.07	—	.32***	−.11	.05	−.02	−.13
4. Social skill (other-rated)	.48***	.08	.41***	—	−.39***	−.02	.07	−.18**
5. Social skill awareness	−.33***	−.04	.07	−.41***	—	−.08	.13	−.05
6. Gender	.24**	.14	.08	.10	.06	—	.08	.05
7. Minority status	.26**	.08	.12	.06	.04	.17	—	−.02
8. Age	.11	.23**	.17	.09	.05	−.02	−.04	—

Note. Correlations from Study 3 ($n = 116$) are presented below the diagonal. Correlations from Study 4 ($n = 159$) are presented above the diagonal.
** $p < .05$. *** $p < .01$.

Table 4
Multiple Regression Results: Standard Regression Coefficients and Changes in R^2

Step and predictor	Study 1	Study 2	Study 3	Study 4
Step 1				
Social skill awareness			.63*	.56*
Social skill (self-rated)	−.76	−2.08*	−.11	−.03
Social skill (peer or boss-rated)			.41***	.63***
Conscientiousness	−.79*	−.83*	.43**	.39***
Minority status	.10	.06	.22***	−.11**
Age	−.12	.02	.07	−.04
Gender	.18**	−.06	.15*	−.21***
Time known by manager		.16		
Tenure		.30		
Total R^2	.13***	.13*	.36**	.55***
Adjusted R^2	.09***	.06*	.32**	.53***
Step 2: Conscientiousness × Social Skill	1.53**	2.61**	−.88**	−.68***
Total R^2	.16***	.17**	.39***	.57***
Adjusted R^2	.12***	.09**	.34***	.55***
ΔR^2	.03**	.03**	.02**	.02**

Note. The standardized regression coefficients presented are those derived at the second step.
* $p < .10$. ** $p < .05$. *** $p < .01$.

aspects of performance reflecting interpersonal effectiveness rather than overall performance.

Practical Implications

Consistent with the notion that social skill is largely learned, whereas personality is less pliable (Gesten et al., 1987; Hogan & Shelton, 1998), meta-analyses have indicated that very basic social skill training for children (Kavale & Forness, 1995; B. H. Schneider, 1992) and more advanced human relations training for workers have been effective (Burke & Day, 1986). We suggest that formal training efforts designed to enhance the social skill of workers high in Conscientiousness may have utility (e.g., Jordan, Ashkanasy, Härtel, & Hooper, 2002). We envision such skill-building efforts as involving some combination of content and process training and development techniques, which indeed,

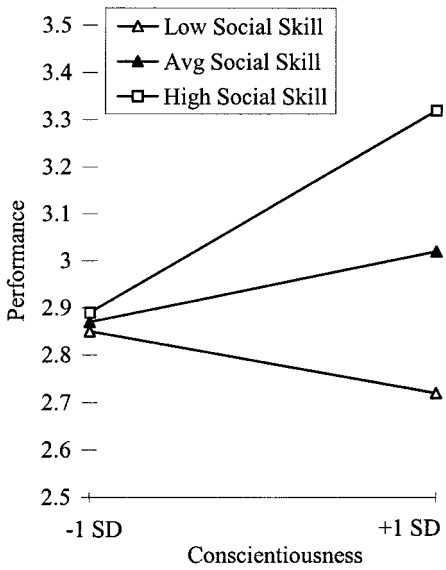

Figure 1. Performance regressed on Conscientiousness scores: low, average, and high social skill groups (Study 1). $Y = (-.85 - .28f)X + (-.79f + 5.28)$. Low score = 1 *SD* below the mean; high score = 1 *SD* above the mean. Only scores +/− 1 *SD* from the mean of Conscientiousness scores are plotted. Avg = average.

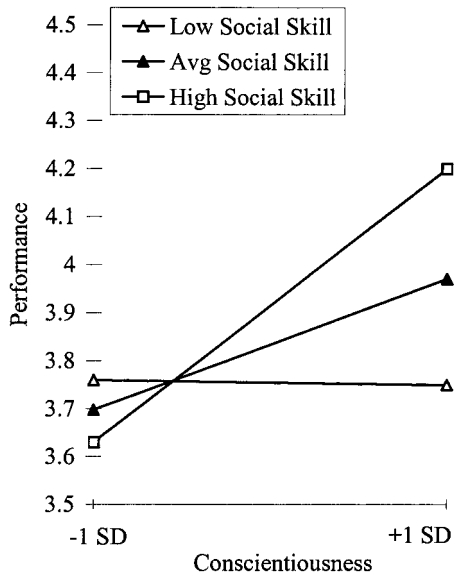

Figure 2. Performance regressed on Conscientiousness scores: low, average, and high social skill groups (Study 2). $Y = (-2.73 - .74f)X + (-1.19f + 10.74)$. Low score = 1 *SD* below the mean; high score = 1 *SD* above the mean. Only scores +/− 1 *SD* from the mean of Conscientiousness scores are plotted. Avg = average.

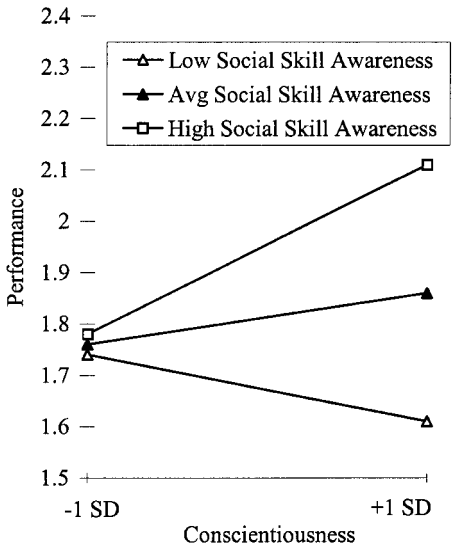

Figure 3. Performance regressed on Conscientiousness scores: low, average, and high social skill awareness groups (Study 3). $Y = (-.43 - .12f)X + (-.34f + .54)$. Low score = 1 *SD* below the mean; high score = 1 *SD* above the mean. Only scores +/− 1 *SD* from the mean of Conscientiousness scores are plotted. Avg = average.

present some principles, but then rely on techniques that maximize the active involvement of participants.

Directions for Future Research

We offer six potential areas for future research. Social skill may well permit personality to demonstrate its effects on interpersonal dynamics. Therefore, our first suggestion is to heed the advice of Hogan and Shelton (1998) and investigate the moderating role of social skill on the relationships between other personality characteristics and theoretically relevant job performance criteria. Second, when conceptually appropriate, it may be worthwhile to also investigate the Conscientiousness × Social Skill interaction on aspects of task and contextual performance across a wider variety of occupations and levels. Third, research that examines the effectiveness of social skill training may have considerable utility.

Fourth, as we mentioned earlier, the distinction between core task performance and interpersonal facilitation as an element of contextual performance may be more useful for jobs in which interpersonal facilitation is relatively independent of task accomplishment than for jobs in which interpersonal facilitation is directly linked to task performance. Research that identifies what is core task performance and what is contextual performance in different occupational groups is needed. Fifth, research is needed to examine the effects of the Conscientiousness × Social Skill interaction on promotion and career mobility at different hierarchical levels because social skill may be more critical to career advancement among managers and executives than among individual contributors.

Finally, we encourage organizational scholars in this area to begin to more critically examine the proliferation of social effectiveness constructs that have emerged over the years to assess their distinctiveness and overlap. For example, Riggio (1986) continues to do interesting work on social skill. R. J. Schneider and his colleagues (R. J. Schneider et al., 1996; R. J. Schneider et al., 2002) have developed an important program of research on social competence. The self-monitoring literature continues to grow (e.g., Day, Schleicher, Unckles, & Hiller, 2002). However, as articulated recently by Ferris et al. (2002), with so many different social effectiveness constructs now in the literature that go by so many different labels (e.g., social skill, social deftness, self-monitoring, social competence, interpersonal acumen, functional flexibility, political skill, and so forth), there is beginning to be some confusion as to how these various constructs relate to one another as well as to important organizational outcomes.

Potential Contributions to the Literature

Results of these four studies may have potential contributions to the personality, social skill, and motivation literatures. A potential contribution to the personality literature may be further support for the emerging literature that has identified moderators of relationships between Conscientiousness and work outcomes (e.g., Gellatly, 1996) because we have added social skill to that list. These studies offer at least two potential contributions to the social skill literature. First, these results provide empirical support for arguments that social effectiveness constructs may have interactive effects with other predictors on job performance (e.g., Jordan et al., 2002). Second, consistent with suggestions that self-awareness is a component of emotional intelligence (Boyatzis et al., 1999; Salovey & Mayer, 1990), the results indicate that our operationalization of social skill awareness functioned similarly to social skill as a moderator of the Conscientiousness–performance relationship.

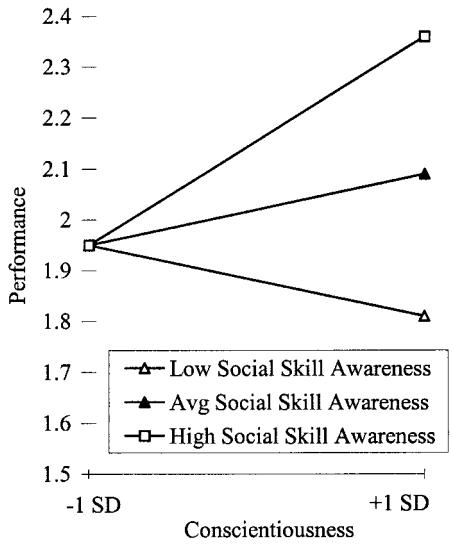

Figure 4. Performance regressed on Conscientiousness scores: low, average, and high social skill awareness groups (Study 4). $Y = (-.56 - .15f)X + (-.44f + .3)$. Low score = 1 *SD* below the mean; high score = 1 *SD* above the mean. Only scores +/− 1 *SD* from the mean of conscientiousness scores are plotted. Avg = average.

There may be two potential contributions to the motivation literature. First, we tested Maier's (1955) interaction hypothesis in a new way: We operationalized ability in terms of social skill to assess the joint relationship of ability and a fairly well-accepted operationalization of motivation—Conscientiousness—with a theoretically relevant and narrow criterion, namely, job performance reflecting interpersonal effectiveness. We are unaware of any previous attempt to do so. Second, the results have provided empirical support for theoretical inclusion of social skill within the trait perspective in motivation research. A recent meta-analysis indicated that Conscientiousness was positively related to measures reflecting three theories of performance motivation—expectancy, goal-setting, and self-efficacy motivation (Judge & Ilies, 2002). As that quantitative review clearly provided evidence for an optimistic view of the validity of dispositional approach to understanding motivation, we suspect that research along those lines will receive considerable attention in the future. We suggest that social skill should be considered in such research efforts when conceptually appropriate. In arguing that social skill is needed for motivation to meet with success, Hogan and Shelton (1998) commented, "As far as we can tell, this point is routinely missed in discussions of motivation" (p. 142). They cited as an example that high needs for achievement or power are likely to be frustrated among persons low in social skill. Because Conscientiousness reflects achievement orientation (Digman & Takemoto-Chock, 1981; Mount & Barrick, 1995a), our results support the notion that social skill may affect the extent to which trait-based motivation has an impact on job performance.

In summary, we investigated the moderating role of social skill on the relationship between Conscientiousness and job performance in four studies designed to expand on and validate prior work in this area. The results supported the notion that social skill is necessary for highly conscientious workers to be successful at aspects of job performance reflecting interpersonal effectiveness.

References

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions.* Newbury Park, CA: Sage.

Allport, G. W. (1937). *Personality: A psychological interpretation.* New York: Holt.

Asher, S., & Taylor, A. (1983). Social skill training with children: Evaluating processes and outcomes. *Studies in Educational Evaluation, 8,* 237–245.

Baron, R. A., & Markman, G. D. (2000). Beyond social capital: How social skills can enhance entrepreneurs' success. *Academy of Management Executive, 14,* 106–116.

Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimensions and job performance: A meta-analysis. *Personnel Psychology, 44,* 1–26.

Barrick, M. R., & Mount, M. K. (1993). Autonomy as a moderator of the relationship between the Big Five personality dimensions and job performance. *Journal of Applied Psychology, 78,* 111–118.

Barrick, M. R., Mount, M. K., & Judge, T. A. (2001). The FFM personality dimensions and job performance: Meta-analysis of meta-analyses. *International Journal of Selection and Assessment, 9,* 9–30.

Barrick, M. R., Mount, M. K., & Strauss, J. P. (1993). Conscientiousness and performance of sales representatives: Test of the mediating effects of goal setting. *Journal of Applied Psychology, 78,* 715–722.

Bateman, T. S., & Organ, D. W. (1983). Job satisfaction and the good soldier: The relationship between affect and employee "citizenship." *Academy of Management Journal, 26,* 587–595.

Bedeian, A. G., & Day, D. V. (1994). Concluding statement. *Journal of Management, 20,* 695–698.

Behling, O. (1998). Employee selection: Will intelligence and conscientiousness do the job? *Academy of Management Executive, 12,* 77–86.

Block, J., & Kremen, A. (1996). IQ and ego-resiliency: Conceptual and empirical connections and separateness. *Journal of Personality and Social Psychology, 70,* 349–361.

Bolino, M. C., Turnley, W. H., & Bloodgood, J. M. (2002). Citizenship behavior and the creation of social capital in organizations. *Academy of Management Review, 27,* 505–522.

Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt & W. C. Borman (Eds.), *Personnel selection* (pp. 71–98). San Francisco: Jossey-Bass.

Borman, W. C., & Motowidlo, S. J. (1997a). Introduction: Organizational citizenship behavior and contextual performance. *Human Performance, 10,* 67–69.

Borman, W. C., & Motowidlo, S. J. (1997b). Task performance and contextual performance: The meaning for personnel selection research. *Human Performance, 10,* 99–109.

Boyatzis, R. E., Goleman, D., & Hay/McBer. (1999). *Emotional competence inventory.* Boston: HayGroup.

Burke, M., & Day, R. (1986). A cumulative study of the effectiveness of managerial training. *Journal of Applied Psychology, 71,* 232–245.

Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., Vol. 1, pp. 687–732). Palo Alto, CA: Consulting Psychologists Press.

Cattell, R. B. (1945). The principal trait clusters for describing personality. *Psychological Bulletin, 42,* 129–161.

Champoux, J., & Peters, W. (1987). Form, effect size, and power in moderated regression analysis. *Journal of Occupational Psychology, 60,* 243–255.

Chaplin, W. F. (1991). The next generation of moderator research in personality psychology. *Journal of Personality, 59,* 143–178.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavior sciences.* Hillsdale, NJ: Erlbaum.

Colquitt, J., & Simmering, M. (1998). Conscientiousness, goal orientation, and motivation to learn during the learning process: A longitudinal study. *Journal of Applied Psychology, 83,* 654–665.

Conway, J. M. (1999). Distinguishing contextual performance from task performance for managerial jobs. *Journal of Applied Psychology, 84,* 3–13.

Cooper, W. H. (1981). Conceptual similarity as a source of illusory halo in job performance ratings. *Journal of Applied Psychology, 66,* 302–307.

Costa, P. T., Jr., & McCrae, R. A. (1985). *The NEO Personality Inventory manual.* Odessa, FL: Psychological Assessment Resources.

Cronbach, L. J. (1958). Proposals leading to an analytic treatment of social perception scores. In R. Tagiuri & L. Petrullo (Eds.), *Person perception and interpersonal behavior* (pp. 353–379). Stanford, CA: Stanford University Press.

Cronbach, L. J., & Gleser, G. C. (1953). Assessing similarity between profiles. *Psychological Bulletin, 50,* 456–473.

Day, D. V., Schleicher, D. J., Unckles, A. L., & Hiller, N. J. (2002). Self-monitoring at work: A meta-analysis investigation of construct validity. *Journal of Applied Psychology, 87,* 390–401.

Digman, J. M. (1989). Five robust trait dimensions: Development, stability, and utility. *Journal of Personality, 57,* 195–214.

Digman, J. M., & Takemoto-Chock, N. K. (1981). Factors in the natural language of personality: Re-analysis, comparison, and interpretation of six major studies. *Multivariate Behavioral Research, 16,* 148–170.

Dodd, W. E., Wollowick, H. B., & McNamara, W. J. (1970). Task difficulty as a moderator of long-range prediction. *Journal of Applied Psychology, 54,* 265–270.

Edwards, J. R. (1993). Problems with the use of profile similarity indices in the study of congruence in organizational research. *Personnel Psychology, 46,* 641–665.

Edwards, J. R. (1994). The study of congruence in organizational behavior research: Critique and a proposed alternative. *Organizational Behavior and Human Decision Processes, 58,* 51–100.

Edwards, J. R. (1996). An examination of competing versions of person–environment fit approach to stress. *Academy of Management Journal, 39,* 292–339.

Edwards, J. R. (2001). Ten difference score myths. *Organizational Research Methods, 4,* 265–287.

Eysenck, H. J. (1953). *The structure of human personality.* New York: John Wiley.

Ferris, G. R., Kolodinsky, R. W., Hochwarter, W. A., & Frink, D. D. (2001, March). *Conceptualization, measurement, and validation of the political skill construct.* Paper presented at the 61st Annual National Meeting of the Academy of Management, Washington, DC.

Ferris, G. R., Perrewé, P. L., & Douglas, C. (2002). Social effectiveness in organizations: Construct validity and research directions. *Journal of Leadership and Organizational Studies, 9,* 49–63.

Ferris, G. F., Witt, L. A., & Hochwarter, W. A. (2001). Interaction of social skill and general mental ability on job performance and salary. *Journal of Applied Psychology, 86,* 1075–1082.

French, E. G. (1958). The interaction of achievement motivation and ability in problem-solving success. *Journal of Abnormal and Social Psychology, 57,* 306–309.

Gellatly, I. (1996). Conscientiousness and task performance: Test of a cognitive process model. *Journal of Applied Psychology, 81,* 474–482.

George, J. M. (1992). The role of personality in organizational life: Issues and evidence. *Journal of Management, 18,* 185–213.

Gesten, E. L., Weissberg, R. P., Amish, P. L., & Smith, J. K. (1987). Social problem-solving training: A skills-based approach to prevention and treatment. In C. A. Maher & J. E. Zins (Eds.), *Psychoeducational interventions in the schools: Methods and procedures of enhancing student competence* (pp. 197–210). New York: Pergamon.

Goldberg, L. R. (1992). The development of markers for the Big Five factor structure. *Psychological Assessment, 4,* 26–42.

Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist, 48,* 26–34.

Goldberg, L. R. (1999). A broad-bandwidth, public-domain, personality inventory measuring the lower-level facets of several five-factor models. In I. Mervielde, I. J. Deary, F. De Fruyt, & F. Ostendorf (Eds.), *Personality psychology in Europe* (Vol. 7, pp. 7–28). Tilburg, the Netherlands: Tilburg University Press.

Golding, S. L. (1975). Flies in the ointment: Methodological problems in the analysis of the percentage of variance due to persons and situations. *Psychological Bulletin, 82,* 278–288.

Goldstein, H. W., Zedeck, S., & Goldstein, I. L. (2002). *g*: Is this your final answer? *Human Performance, 15,* 123–142.

Goleman, D. (1998). *Working with emotional intelligence.* New York: Bantam Books.

Gordon, M. E., & Fitzgibbons, W. J. (1982). Empirical test of the validity of seniority as a factor in staffing decisions. *Journal of Applied Psychology, 67,* 311–319.

Gosling, S. D., & John, O. P. (1999). Personality dimensions in nonhuman animals: A cross-species review. *Current Directions in Psychological Science, 8,* 69–75.

Hobart, R., & Dunnette, M. D. (1967). Development of moderator variables to enhance prediction of managerial effectiveness. *Journal of Applied Psychology, 51,* 50–64.

Hochwarter, W. A., Witt, L. A., & Kacmar, K. M. (2000). Perceptions of organizational politics as a moderator of the relationship between conscientiousness and job performance. *Journal of Applied Psychology, 85,* 472–478.

Hogan, R., Hogan, J., & Roberts, B. W. (1996). Personality measurement and employment decisions. *American Psychologist, 51,* 469–477.

Hogan, R., Rybicki, S. L., Motowidlo, S. J., & Borman, W. C. (1998). Relations between contextual performance, personality, and occupational advancement. *Human Performance, 11,* 189–207.

Hogan, R., & Shelton, D. (1998). A socioanalytic perspective on job performance. *Human Performance, 11,* 129–144.

Hollenbeck, J. R., Brief, A. P., Whitener, E. M., & Pauli, K. E. (1988). An empirical note on the interaction of personality and aptitude in personnel selection. *Journal of Management, 14,* 441–451.

Hurtz, G. M., & Donovan, J. J. (2000). Personality and job performance: The Big Five revisited. *Journal of Applied Psychology, 85,* 869–879.

John, O. P., & Srivastava, S. (1999). The "Big Five" trait taxonomy: History, measurement, and theoretical perspectives. In L. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 102–138). New York: Guilford Press.

Johns, G. (1981). Difference score measures of organizational behavior variables: A critique. *Organizational Behavior and Human Performance, 27,* 443–463.

Johnson, J. W. (2002). The relative importance of task and contextual performance dimensions to supervisor judgments of overall performance. *Journal of Applied Psychology, 86,* 984–996.

Jordan, P. J., Ashkanasy, N. M., & Härtel, C. E. J. (2002). Emotional intelligence as a moderator of emotional and behavioral reactions to job insecurity. *Academy of Management Review, 27,* 361–372.

Jordan, P. J., Ashkanasy, N. M., Härtel, C. E. J., & Hooper, G. S. (2002). Workgroup emotional intelligence: Scale development and relationship to team process effectiveness and goal focus. *Human Resource Management Review, 12,* 195–214.

Judge, T., & Ilies, R. (2002). Relationship of personality to performance motivation: A meta-analytic review. *Journal of Applied Psychology, 87,* 797–807.

Kavale, K. A., & Forness, S. R. (1995). Social skill deficits and training: A meta-analysis of the research in learning disabilities. In T. E. Scruggs & M. A. Mastropieri (Eds.), *Advances in learning and behavioral disabilities* (Vol. 9, pp. 345–356). Greenwich, CT: JAI Press.

Leary, M. R. (1995). *Self-presentation: Impression management and interpersonal behavior.* Boulder, CO: Westview Press.

Lykken, D. T. (1984). Statistical significance in psychological research. In T. S. Bateman & G. R. Ferris (Eds.), *Method and analysis in organizational research* (pp. 54–64). Reston, VA: Reston Publishing.

Maier, N. R. F. (1955). *Psychology in industry* (2nd ed.). Boston: Houghton-Mifflin.

Markon, K. E., Krueger, R. F., Bouchard, T. J., Jr., & Gottesman, I. I. (2002). Normal and abnormal personality traits: Evidence for genetic and environmental relationships in the Minnesota study of twins reared apart. *Journal of Personality, 70,* 661–693.

Marlowe, H. A., Jr. (1986). Social intelligence: Evidence for multidimensionality and construct independence. *Journal of Educational Psychology, 78,* 52–58.

Meichenbaum, D., Butler, L., & Gruson, L. (1981). Toward a conceptual model of social competence. In J. D. Wine & D. Smye (Eds.), *Social competence* (pp. 36–60). New York: Guilford Press.

McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality, 60,* 175–216.

Motowidlo, S. J., & Van Scotter, J. R. (1994). Evidence that task perfor-

mance should be distinguished from contextual performance. *Journal of Applied Psychology, 79,* 71–83.

Mount, M. K., & Barrick, M. R. (1995a). The Big Five personality dimensions: Implications for research and practice in human resources management. In G. R. Ferris (Ed.), *Research in personnel and human resources management* (Vol. 13, pp. 153–200). Greenwich, CT: JAI Press.

Mount, M. K., & Barrick, M. R. (1995b). *Manual for the Personal Characteristics Inventory.* Libertyville, IL: Wonderlic Personnel Test.

Mount, M. K., & Barrick, M. R. (1998). Five reasons why the "Big Five" article has been frequently cited. *Personnel Psychology, 51,* 849–857.

Mount, M. K., Barrick, M. R., & Strauss, J. P. (1999). The joint relationship of conscientiousness and ability with performance: Test of the interaction hypothesis. *Journal of Management, 25,* 707–721.

Mount, M. K., Colbert, A. E., Harter, J. K., & Barrick, M. R. (2000, August). *Does job satisfaction moderate the relationship between conscientiousness and job performance?* Paper presented at the annual conference of the Academy of Management, Toronto, Ontario, Canada.

Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and organizational advantage. *Academy of Management Review, 23,* 242–266.

O'Reilly, C. A., & Chatman, J. A. (1994). Working smarter and harder: A longitudinal study of managerial success. *Administrative Science Quarterly, 39,* 603–627.

Organ, D. W. (1988). *Organizational citizenship behaviors: The good soldier syndrome.* Lexington, MA: Lexington.

Organ, D. W. (1997). Organizational citizenship behavior: It's construct clean-up time. *Human Performance, 10,* 85–97.

Paunonen, S. V. (2001). Hierarhical organization of personality and prediction of behavior. *Journal of Personality and Social Psychology, 74,* 538–556.

Perrewé, P. L., & Spector, P. E. (2002). Personality research in the organizational sciences. In G. R. Ferris & J. J. Martocchio (Eds.), *Research in personnel and human resources management* (Vol. 21, pp. 1–64). Oxford, UK: JAI Press/Elsevier Science.

Ree, M. J., Earles, J. A., & Teachout, M. S. (1994). Predicting job performance: Not much more than *g. Journal of Applied Psychology, 79,* 518–524.

Riggio, R. E. (1986). Assessment of basic social skills. *Journal of Personality and Social Psychology, 51,* 649–660.

Sackett, P. R., Guys, M. L., & Ellingson, J. E. (1998). Ability–personality interactions when predicting job performance. *Journal of Applied Psychology, 83,* 545–556.

Salovey, P., & Mayer, J. (1990). Emotional intelligence. *Imagination, Cognition, and Personality, 9,* 185–211.

Schmidt, F. L., & Hunter, J. E. (1992). Causal modeling of processes determining job performance. *Current Directions in Psychological Science, 1,* 89–92.

Schneider, B. H. (1992). Didactic methods for enhancing children's peer evaluations: A quantitative review. *Clinical Psychology Review, 12,* 363–382.

Schneider, R. J., Ackerman, P. L., & Kanfer, R. (1996). To "act wisely in human relations:" Exploring the dimensions of social competence. *Personality and Individual Differences, 21,* 469–481.

Schneider, R. J., Roberts, R. D., & Heggestad, E. D. (2002, April). Exploring the structure and construct validity of a self-report social competence inventory. In L. M. Hough (Chair), *Compound traits: The next frontier of I/O personality research.* Symposium conducted at the 17th Annual Conference of the Society for Industrial and Organizational Psychology, Toronto, Ontario, Canada.

Stone, E. F., & Hollenbeck, J. R. (1989). Clarifying some controversial issues surrounding statistical procedures for detecting moderator variables: Empirical evidence and related matters. *Journal of Applied Psychology, 74,* 3–10.

Super, D. E., & Crites, J. O. (1962). *Appraising vocational fitness* (Revised edition). New York: Harper and Row.

Tett, R. P., Jackson, D. N., & Rothstein, M. (1991). Personality measures as predictors of job performance: A meta-analytic review. *Personnel Psychology, 44,* 703–742.

Thorndike, E. L. (1920). Intelligence and its use. *Harper's Magazine, 140,* 227–235.

Tinsley, H. E. A. (2000). The congruence myth: An analysis of the efficiency of the person–environment fit model. *Journal of Vocational Behavior, 56,* 147–179.

Tisak, J., & Smith, C. S. (1994). Rejoinder to Edwards' comments. *Journal of Management, 29,* 691–694.

Topping, K., Bremner, W., & Holmes, E. A. (2000). Social competence: The social construction of the concept. In R. Bar-On & J. D. A. Parker (Eds.), *The handbook of emotional intelligence* (pp. 28–39). San Francisco: Jossey-Bass.

Tsui, A. S., & O'Reilly, C. A., III. (1989). Beyond simple demographic effects: The importance of relational demography in superior-subordinate dyads. *Academy of Management Journal, 32,* 402–423.

Van Scotter, J. R., & Motowidlo, S. J. (1996). Interpersonal facilitation and job dedication as separate facets of contextual performance. *Journal of Applied Psychology, 81,* 525–531.

Van Scotter, J. R., Motowidlo, S. J., & Cross, T. G. (2000). Effects of task performance and contextual performance on systemic rewards. *Journal of Applied Psychology, 85,* 526–535.

Vancouver, J. B., & Schmitt, N. W. (1991). An exploratory examination of person–organization fit: Organizational goal congruence. *Personnel Psychology, 44,* 333–352.

Vinchur, A., Schippmann, J., Switzer, F., & Roth, P. (1998). A meta-analytic review of predictors of job performance for salespeople. *Journal of Applied Psychology, 4,* 586–597.

Witt, L. A. (1998). Enhancing organizational goal congruence: A solution to organizational politics. *Journal of Applied Psychology, 83,* 666–674.

Witt, L. A., Burke, L. A., Barrick, M. R., & Mount, M. K. (2002). The interactive effects of conscientiousness and agreeableness on job performance. *Journal of Applied Psychology, 87,* 164–169

Wright, P. M., Kacmar, K. M., McMahan, G. C., & Deleeuw, K. (1995). $P = f(M \times A)$: Cognitive ability as a moderator of the relationship between personality and job performance. *Journal of Management, 21,* 1129–1139.

Yammarino, F. J., & Atwater, L. E. (1997). Do managers see themselves as others see them? Implications of self-other rating agreement for human resources management. *Organizational Dynamics, 25,* 35–44.

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